Why Codes and Standards Connections Matter?

The Public Interest Energy Research (PIER) Lighting Research Program (LRP) needed a solid strategy for translating its successes into workable codes and standards proposals. If an LRP product or finding is adopted into the state energy efficiency codes, the market effect will be fairly certain. The codes would then require that type of technology or process—or some strategy of equal efficiency—to be implemented in all new buildings.

The Heschong Mahone Group, Inc. (HMG) helped the LRP Project Leads:

- Evaluate all LRP research efforts and map the path from each research outcome into the codes and standards arena.
- Identify the most code-ready research outcomes and recommend steps to adoption, as well as identify outcomes that may require additional research and development (R&D) before they can enter the code process.
- Identify lighting codes and standards problems that require additional R&D, such as outdated lighting industry metrics still referenced by codes.

HMG helped identify LRP efforts likely to have the largest energy savings or demand reduction potential. They also identified additional lighting research needs that could be addressed by future PIER work.

Lighting Research Program Codes and Standards Connections

THE HESCHONG MAHONE GROUP COLLABORATED WITH LRP PROJECT TEAMS TO IDENTIFY CODES AND STANDARDS CONNECTIONS FOR THE LRP PRODUCTS. THIS EFFORT INFORMED PRODUCT DESIGN AND DEVELOPMENT AND HELPED WITH PROMOTION THROUGH FUTURE CODES AND STANDARDS PROVISIONS.

Various LRP technologies were reviewed by HMG for codes and standards implications.

The standards process often serves as a catalyst to introduce energy-efficient products into the marketplace. The process also encourages utilities and other agencies to grant economic incentives through energy efficiency rebates to stimulate early adoption of technologies.

Connecting Research to Energy Efficiency Standards

The Codes and Standards Connections project provided the following support to the LRP teams:

- Lighting Standards Review: Reviewed the various lighting efficiency standards enacted across the nation, and compared them to California's lighting standards.
- Program Projects Reviews: Reviewed all LRP projects for their potential as code improvements under California's building and appliance efficiency standards.
- Complementary Lighting Research Reviews: Identified research activities that can complement LRP R&D work.
- Lighting Standards Needs Assessment: Identified problem areas in the California lighting efficiency standards that require additional R&D.

Reports for each of the categories listed below are available for review.

Benefits

- Ensure potential energy savings are valid
- Review the cost-effectiveness of the technology
- Evaluate whether the technology is commercially available from more than one manufacturer
- Review whether the technologies are feasible and compatible with current building practice

INTERESTED?

Lighting researchers, code developers, contractors, and utility staff can use the recommendations from this project.

Key next steps include:

- Enhanced support for research needs for codes and standards development in California. This includes research into:
  - Consumer or user acceptance problems with code provisions
  - Reliability or other concerns with requirements for a given technology
  - Long-term persistence of energy savings from code measures and technologies
- Increased coordination with utility emerging technology programs to develop energy efficient lighting solutions
- Support for long-term fundamental lighting research into topics such as:
  - Biological and environmental impacts of lighting technologies
  - Understanding the mechanics of human vision and the impact of various lighting frequencies and spectrum on visibility
  - Lighting needs for safety and security inside buildings and in the outdoors
  - New product development through materials research, technology specifications, and industry standards

This project was part of the PIER Lighting Research Program. To view the project results, as well as other current research activities, visit www.energy.ca.gov/pier.

Additional information can be found at:

- PIER contractor site: www.archenergy.com/lrp/products/codes.htm

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"Research Powers the Future"

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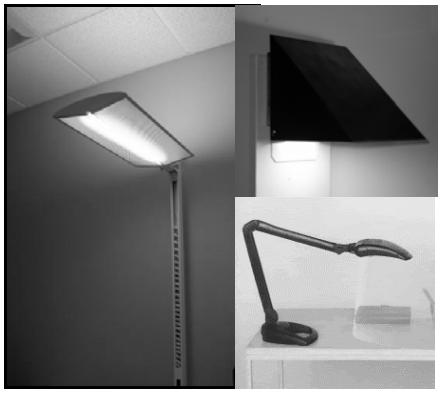
LIGHTING R&D AND CODES CONNECTIONS



MAPPING PIER LIGHTING RESEARCH PRODUCTS TO CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS

Public Interest
Energy Research